

Amendments to the Claims

Claims 1-9 (canceled).

10. (currently amended) An apparatus for making a ceramic arc tube comprising:
a pressure jacket having a pressure chamber containing an RF susceptor, the susceptor having an opening for receiving a capillary of the arc tube, an RF induction coil situated external to the pressure jacket and surrounding the RF susceptor, the RF induction coil being connected to an RF power source and being embedded in a cooling block;
the pressure chamber being connected to a source of pressurized buffer gas and a vacuum source, the source of pressurized buffer gas being regulated by a valve connected to a pressure controller having a pressure sensor for measuring the pressure in the pressure chamber;
a holder having a support for the arc tube, the height of the support being selected to cause an unsealed end of the arc tube to be positioned within the RF susceptor when the holder is sealed to the apparatus; and
the apparatus when sealed being capable of alternately evacuating the pressure chamber and filling the pressure chamber with buffer gas.

11. (original) The apparatus of claim 10 wherein the susceptor is a hollow graphite cylinder.

12. (original) The apparatus of claim 11 wherein the susceptor is secured in the pressure chamber by alumina spacers.

Claim 13 (canceled).

14. (currently amended) The apparatus of claim 13-10 wherein the cooling block is an aluminum nitride/boron nitride composite material.

15. (original) The apparatus of claim 10 wherein a thermal shield is positioned between the RF susceptor and the RF induction coil.

16. (original) The apparatus of claim 10 wherein the edges of the susceptor are blunted to reduce electric field enhancement.

17. (original) The apparatus of claim 10 wherein the induction coil is operated in a single-ended mode.

18. (original) The apparatus of claim 10 wherein the induction coil is operated in a differential mode.

19. (original) The apparatus of claim 15 wherein the thermal shield comprises a multi-layer ceramic infra-red-reflecting material.

20. (original) The apparatus of claim 15 wherein the thermal shield comprises a thin metal film having gaps parallel to the axis of the pressure chamber.

21. (currently amended) An apparatus for making a ceramic arc tube comprising:
a pressure jacket having a pressure chamber containing an RF susceptor, the susceptor having an opening for receiving a capillary of the arc tube, an RF induction coil situated external to the pressure jacket and surrounding the RF susceptor, the RF induction coil being connected to an RF power source;
the pressure chamber being connected to a source of pressurized buffer gas and a vacuum source, the source of pressurized buffer gas being regulated by a valve connected to a pressure controller having a pressure sensor for measuring the pressure in the pressure chamber, The apparatus of claim 10 wherein the pressure jacket is being releasably sealed to a base mounted to a manifold, the manifold having ports for connecting to the source of pressurized buffer gas and the vacuum source, the base and the manifold each having a bore there through therethrough to allow an arc tube to be inserted into the pressure chamber, the manifold being releasably sealed to the holder;
a holder having a support for the arc tube, the height of the support being selected to cause an unsealed end of the arc tube to be positioned within the RF susceptor when the holder is sealed to the apparatus; and

the apparatus when sealed being capable of alternately evacuating the pressure chamber and filling the pressure chamber with buffer gas.

22. (original) The apparatus of claim 10 wherein the pressure jacket is comprised of fused silica.

23. (original) The apparatus of claim 10 wherein the RF power source has a frequency of 27.12 MHz.

24. (original) The apparatus of claim 10 wherein the RF power source has an RF matching network which minimizes the reflected power.

25. (original) The apparatus of claim 23 wherein the RF power source has a power output of less than 300 watts.

Claims 26-31 (canceled).

32. (new) The apparatus of claim 21 wherein a thermal shield is positioned between the RF susceptor and the RF induction coil.

33. (new) The apparatus of claim 32 wherein the thermal shield comprises a multi-layer ceramic infra-red-reflecting material.

34. (new) The apparatus of claim 32 wherein the thermal shield comprises a thin metal film having gaps parallel to the axis of the pressure chamber.